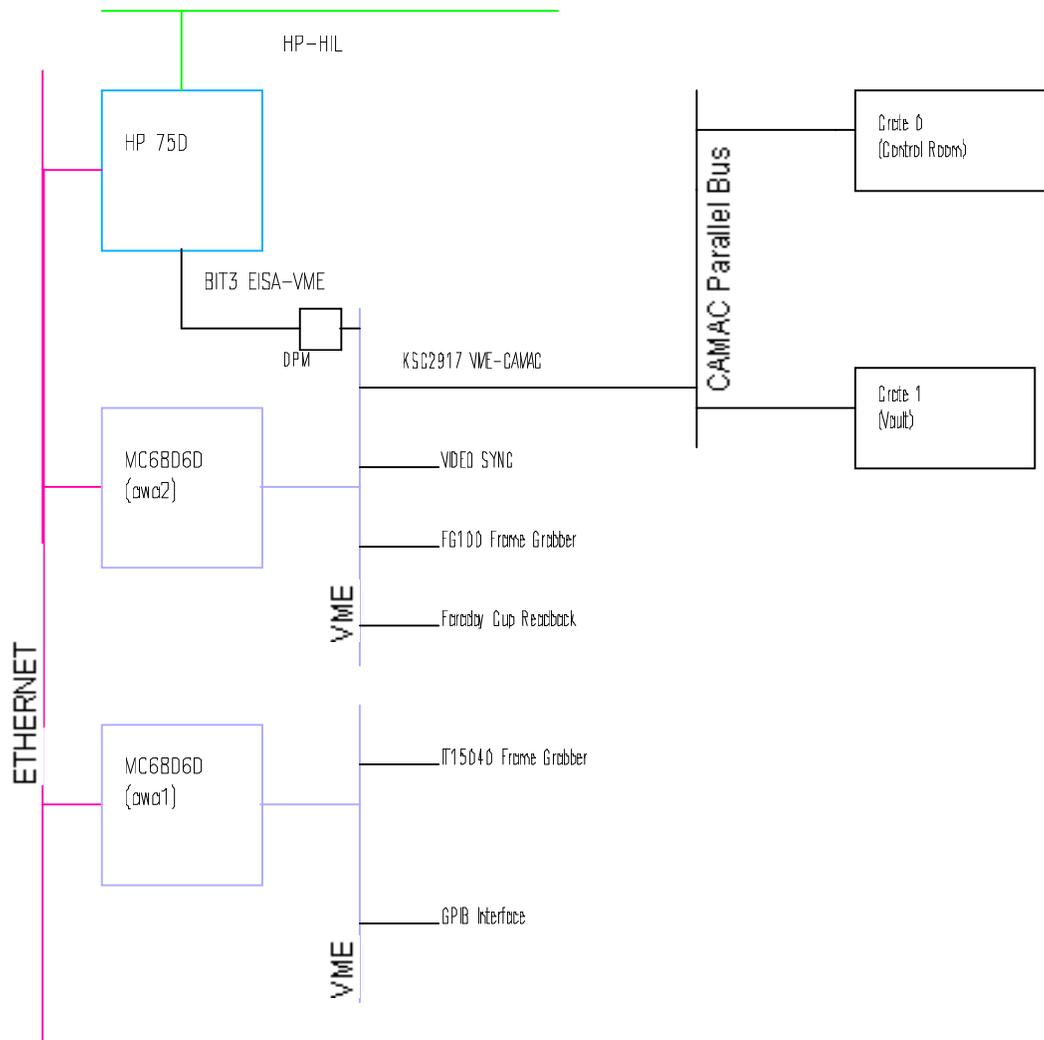


AWA CONTROL AND DATA ACQUISITION SYSTEM HARDWARE OVERVIEW



COMPUTERS:

awa0: HP750 Workstation

- 66 MHz clock
- 64 MB RAM
- 1.3 GB system/user disk
- 2.9 GB data disk mounted as `/data1`
- 4 mm DAT drive
- Ethernet
- CD-ROM
- Bit3 EISA-VME interface, 20 MB/s max transfer speed
- HP-HIL knob panel

awa2: Heurikon Nitro 60 MC68060 Single Board Computer (SBC)

- 50 MHz clock
- 16 MB RAM
- 0.5 GB Fixed disk
- 3.5 in Floppy
- Ethernet
- VME
 - ◇ Bit3 VME card, 1 MB Dual Port RAM
 - ◇ KSC 2917 VME-CAMAC Parallel Bus Interface
 - ◇ IT FG100 Frame Grabber
 - ◇ Bob Laird (APS) Video Sync Card
 - ◇ Faraday cup readout card

awa1: Nitro 60 system similar to awa2.

- Ethernet only link to outside world
- VME
 - ◇ New Imaging Technology 15040 Frame Grabber
 - ◇ National Instruments GPIB Interface

CAMAC

- Crates are interfaced to VME via CAMAC Parallel Bus (KSC 2917)
- 8 crates maximum (per controller)-- 2 presently used, KSC 3922
Crate Controllers
- 1 MB/s peak data transfer rate
- 90 m maximum bus length

CONTROL FUNCTIONS

- Magnet power supplies-- 12 and 16 bit DACs
- Stepping motor controllers
- Output registers
- Programmable gate/delay generator
- J. Power timing card

MONITORING

(Systems polled periodically and data updated in DPM by awarun process on awa2 VME system)

- J. Dawson 12 bit analog MUX cards-- 96/48 channels, 50 ms latency
- Input gates for single bit status readings-- modulator error flagging

IMAGING

VIDEO SYNC CARD

- Design from APS
- Inputs 60 Hz line signal
- Outputs
 - ◇ conditioned 60 Hz signal (for JP card)
 - ◇ Composite sync (2)
 - ◇ Horizontal Drive
 - ◇ Vertical Drive
- Controls via VME Bus
 - ◇ Delay (coarse and fine)
 - ◇ Gate Width

FRAME GRABBER

Imaging Technology 15040

- IMS Motherboard
- AM-VS Image acquisition card
- DM-PC Display and Graphics card
- Additional slot for computation module

Functions:

- 8 bit digitizer
- triggerable
- 1 MB onboard video memory
- OS-9 library